



Water Conditions Summary

**Operations Control, Engineering & Vegetation
Management Department**

Operations & Maintenance Resource Area

Governing Board Presentation

August 13, 2003

Meteorological Conditions

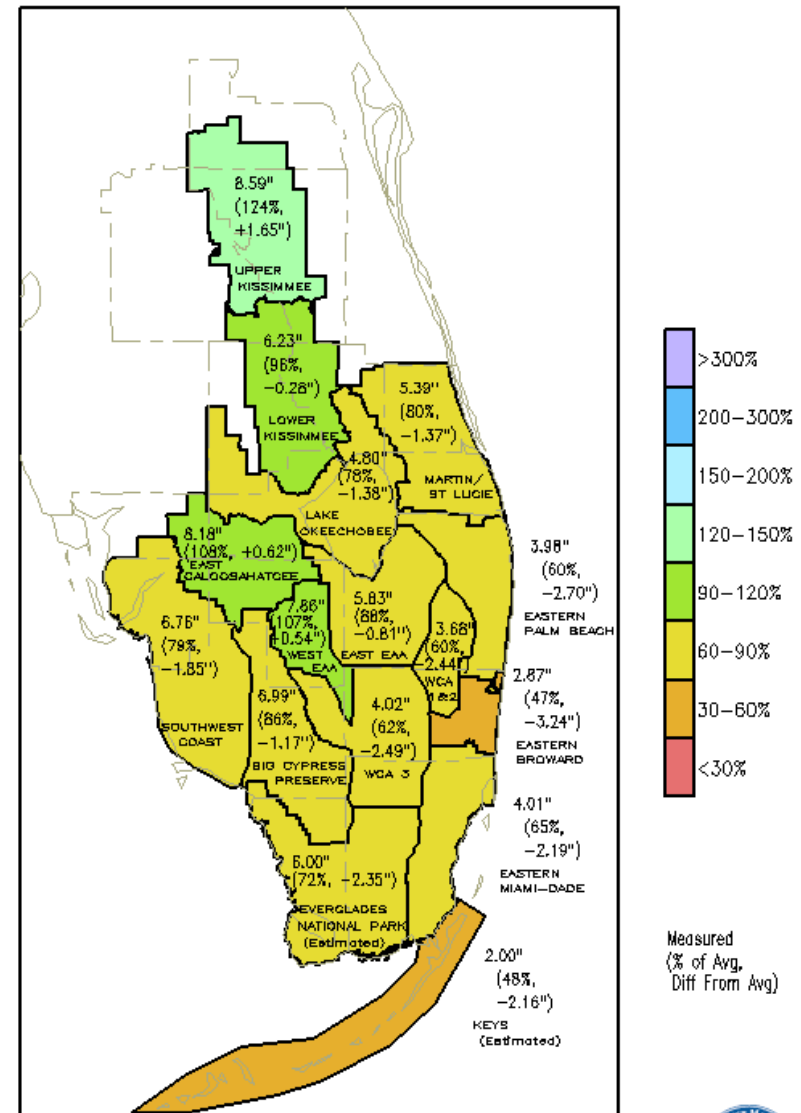
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Meteorological Conditions

- District-wide rainfall in July was slightly below average
- July Rainfall : District-wide rainfall was 85% of average
 - Normal Rainfall: 6.98 inches
 - Actual Rainfall: 5.95 inches
 - Est. Pan Evaporation: 5.4 inches
- August Rainfall : District-wide rainfall to-date is above average

SFWMD Rainfall
02-jul-2003 to 01-aug-2003

- Most areas of the District received below average rainfall in July
- Above average rainfall occurred in the Kissimmee, Caloosahatchee & C-139 basins



DISTRICT-WIDE: 5.94" (85%, -1.04")

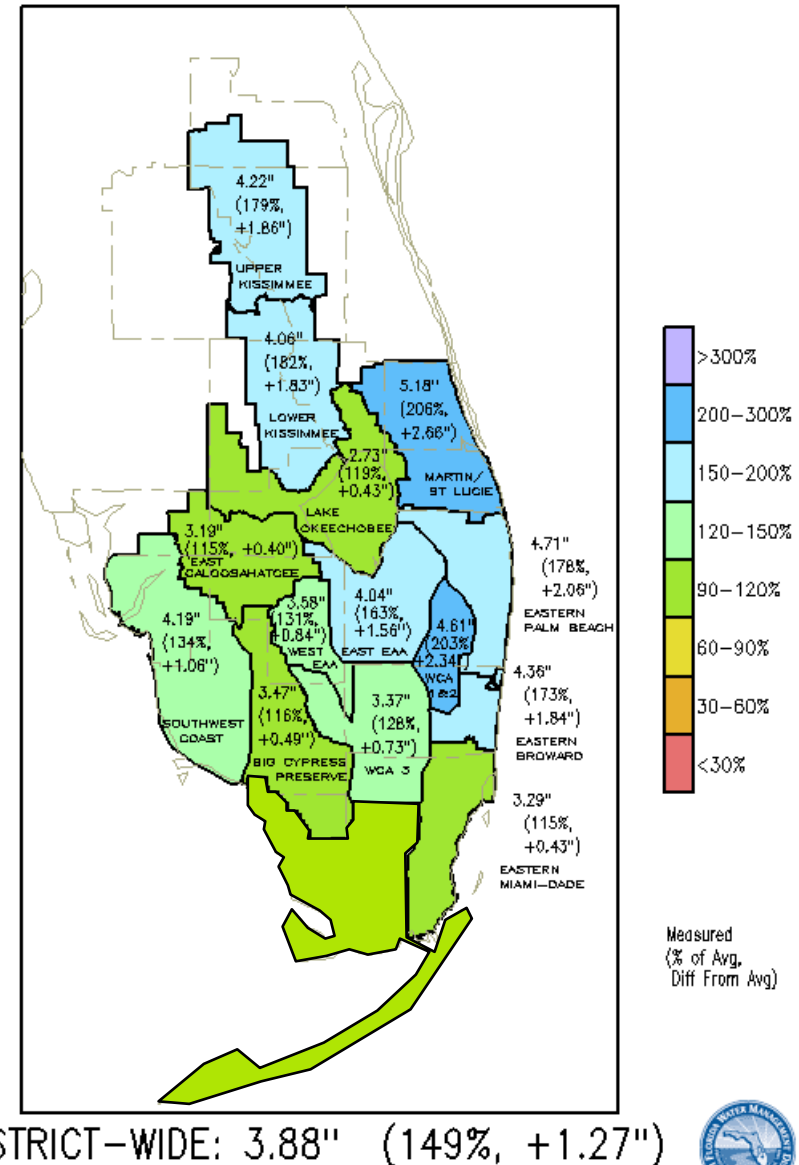
GRADS: COLA/IGES

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SFWMD Rainfall
02-AUG-2003 to 12-AUG-2003

- Well above average rainfall has occurred so far this month in the Kissimmee River Basin and Upper East Coast regions








2003 Hurricane Season Status











Category	Predicted	Average	Actual
Named Storms	12-15	10	4
Hurricanes	7-9	6	2
Strong Hurricanes	3-4	2	0

General Hydrologic Conditions

General Hydrologic Conditions

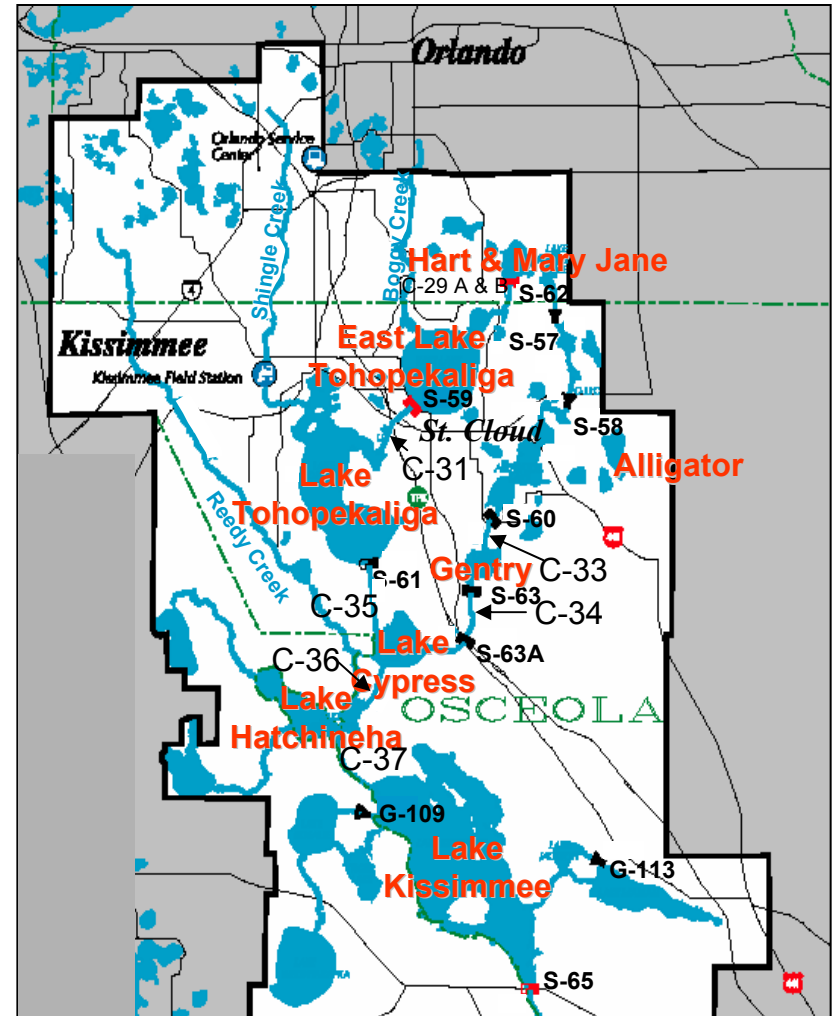
-  **Upper Chain** – High seasonal levels
-  **Kissimmee River** – High seasonal flows
-  **Lake Okeechobee** – Prolonged Mod. High Stg.
-  **Lake Okeechobee Water Supply**
-  **Estuaries** – Low salinity

General Hydrologic Conditions

-  **Water Conservation Area 1** - Above Sched.
-  **Water Conservation Area 2** - Above Sched.
-  **Water Conservation Area 3** - Above Sched.
-  **ENP** - Normal seasonal conditions
-  **Fl. Bay** - Normal seasonal conditions
-  **Upper East Coast** – Normal canal levels
-  **Lower East Coast** - Norm. seasonal grndwtr.
-  **Lower West Coast** - Norm. seasonal grndwtr.

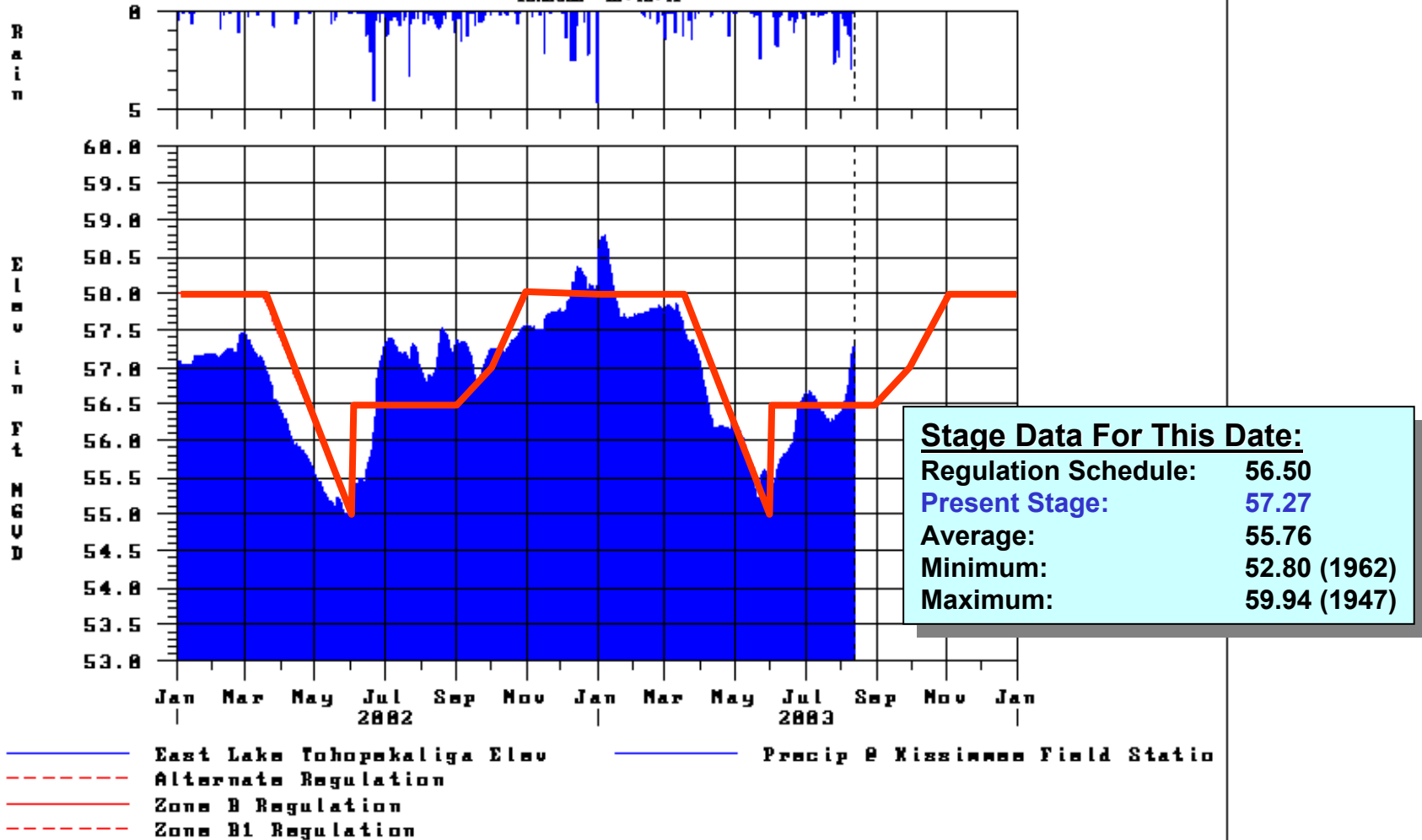
Hydrologic Conditions Upper Kissimmee Basins

- Structures at all lakes are making regulatory releases
 - Recent rainfall has pushed stages above regulation schedule
 - Expect releases to continue for several weeks



Kissimmee River Basin - East Lake Tohopekaliga

12/11/03 13:45:41

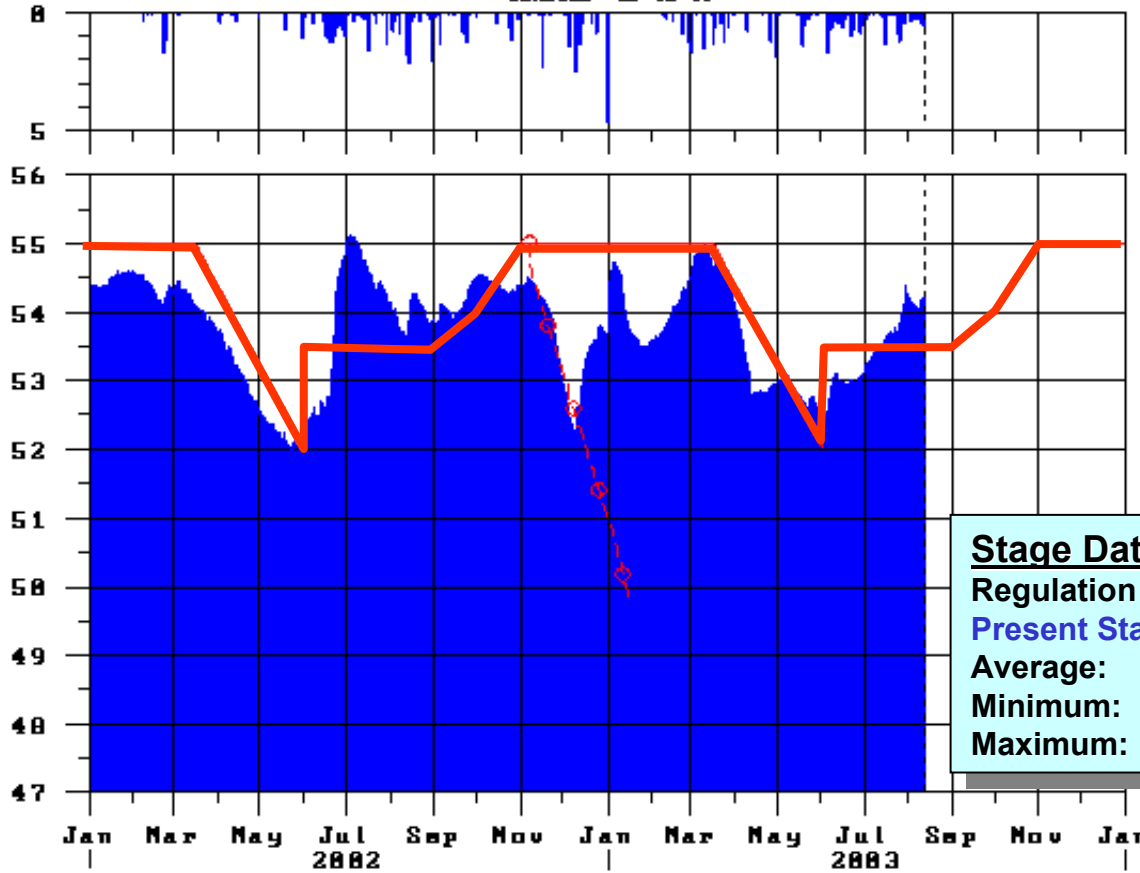


Kissimmee River Basin - Lake Tohopekaliga

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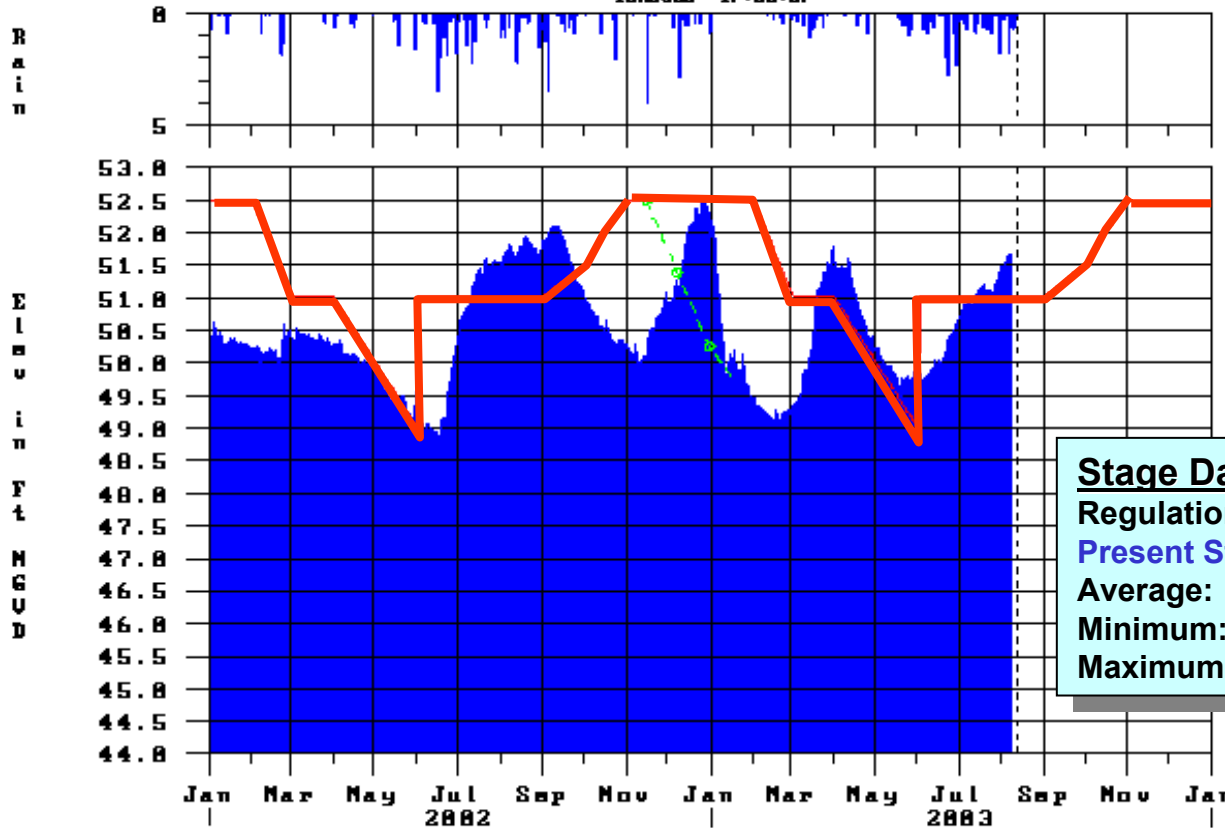
Stage Data For This Date:

Regulation Schedule:	53.50
Present Stage:	54.21
Average:	53.06
Minimum:	48.86 (1971)
Maximum:	57.04 (1960)

- Lake Tohopekaliga
- - - Alternate Regulation
- Zone B Regulation
- - - ⊕ - - - Zone B1 Regulation
- - - ⊕ - - - Zone B1 (1996-1998)
- - - ⊕ - - - Zone B2 Regulation
- Precip @ S-61

Kissimmee River Basin - Lake Kissimmee

12AUG03 17:00:57



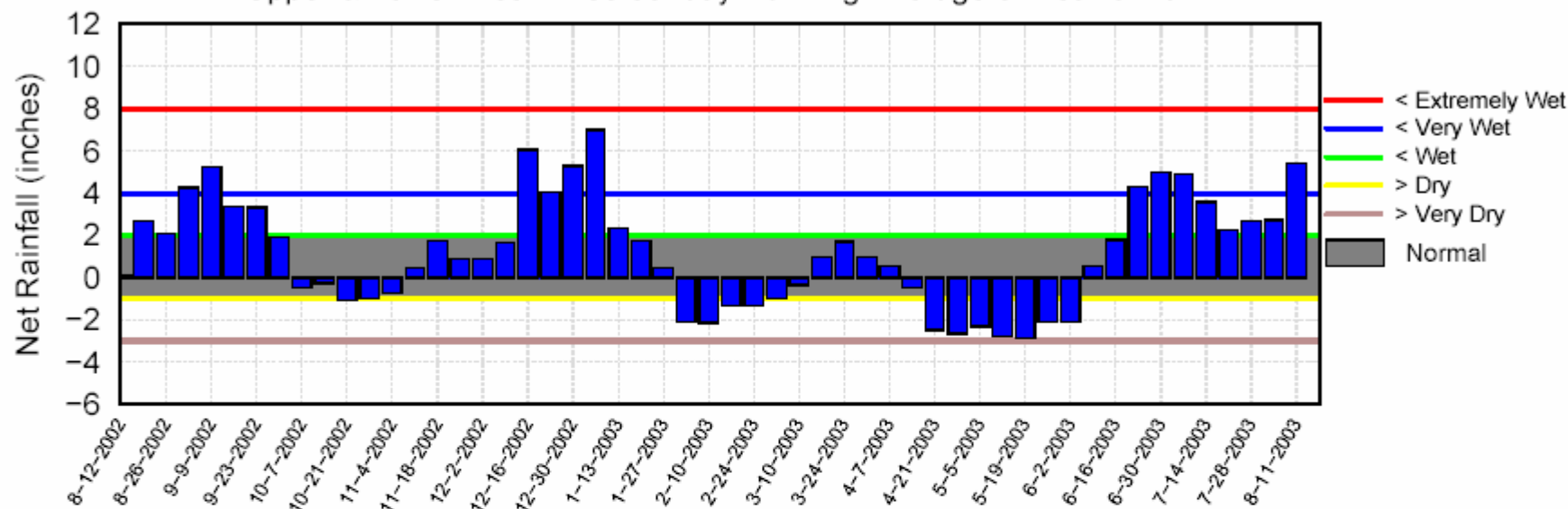
Stage Data For This Date:

Regulation Schedule:	51.00
Present Stage:	51.54
Average:	50.17
Minimum:	45.14 (1956)
Maximum:	54.65 (1947)

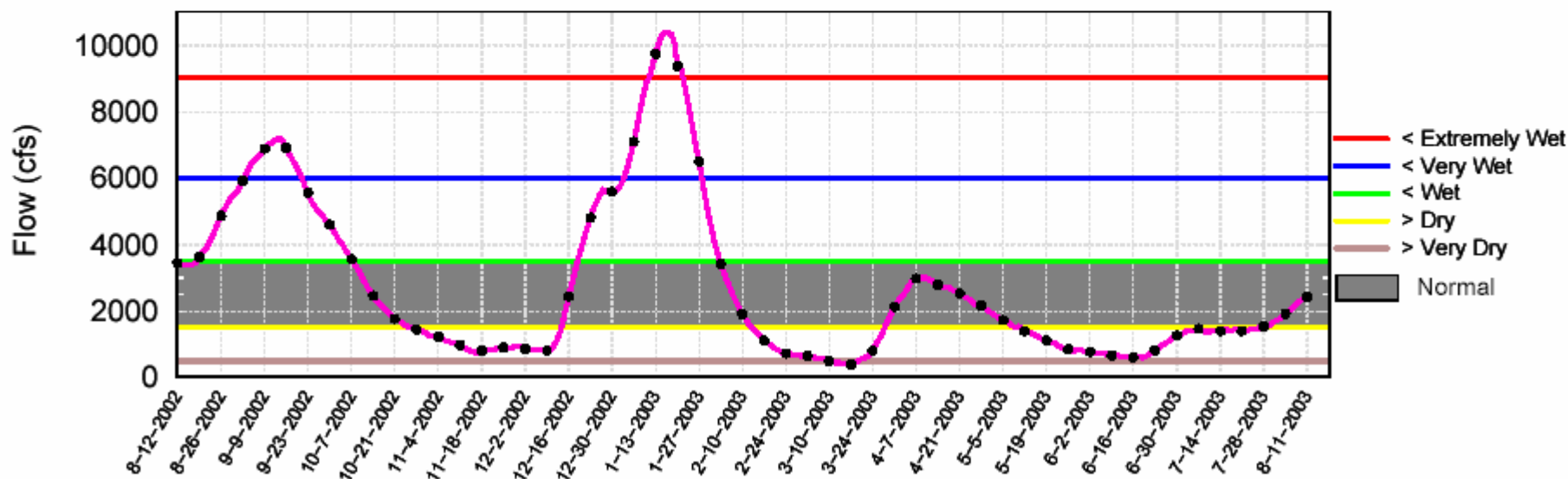
— Lake Kissimmee Elev
 — Zone B Regulation
 - - - Zone B1 Regulation
 - - - Zone B2 Regulation

Tributary Basin Condition Indicators as of August 11, 2003

Upper & Lower Kissimmee 30-day Running Average of Net Rainfall



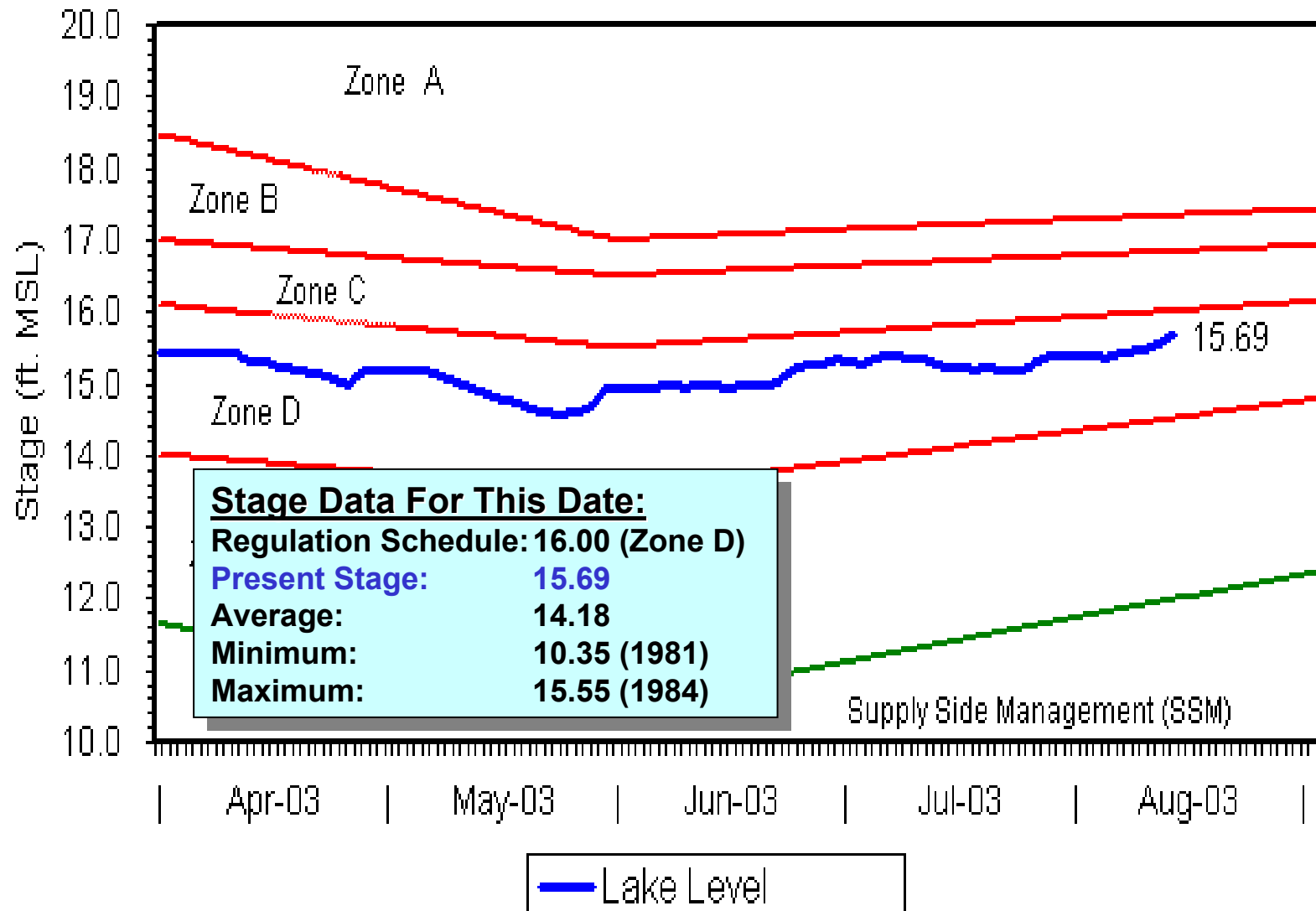
S-65E 14-day Running Average of Flow

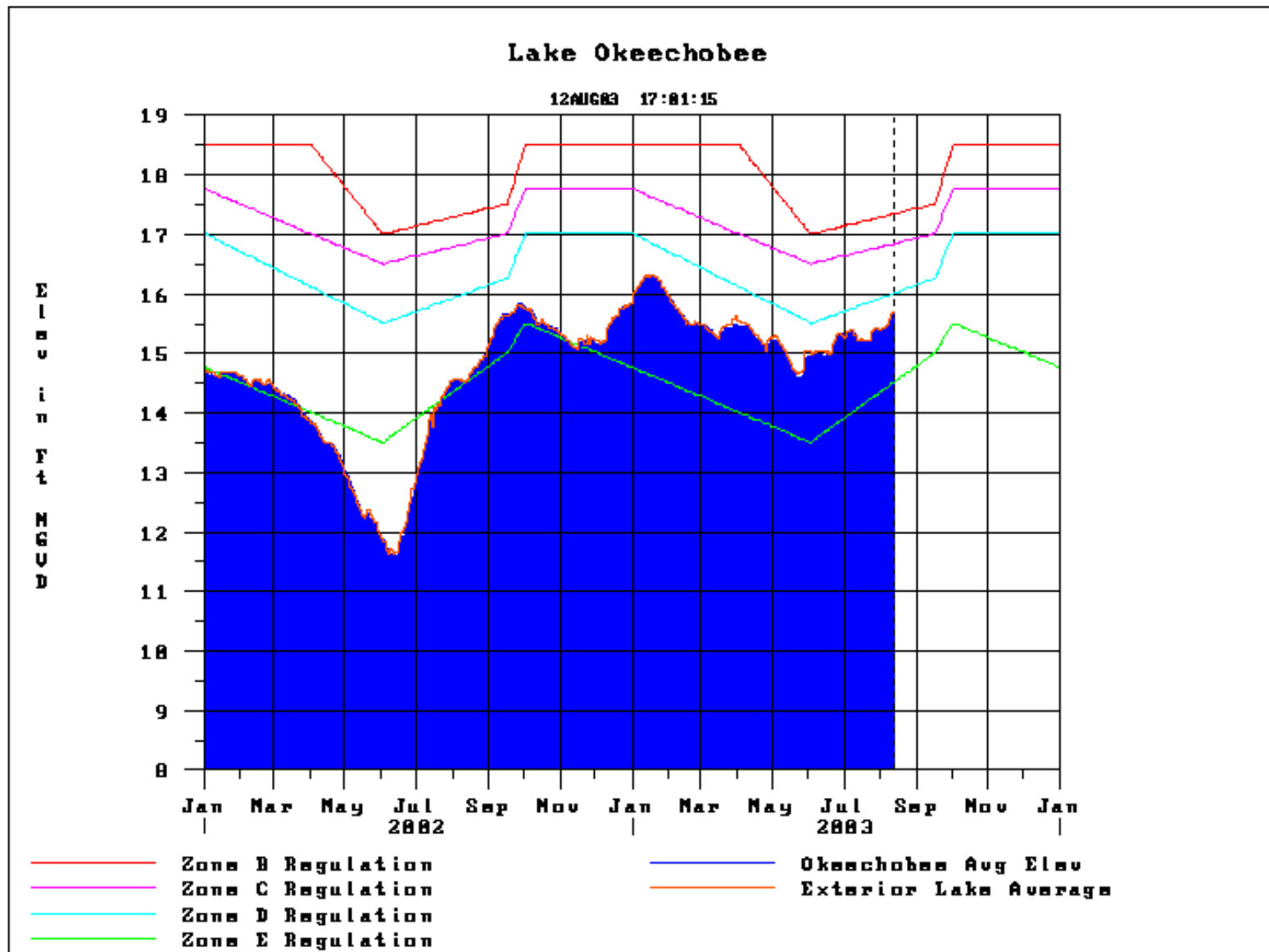


Hydrologic Conditions Lake Okeechobee

- Lake Okeechobee stages continue to increase because of continued above average rainfall around the lake
 - Kissimmee River inflows have increased
- Ag areas remain under flood control operations since mid-May
- USACE recently completed a Level I Pulse
 - Currently initiating Level III Pulse Release

Lake Okeechobee





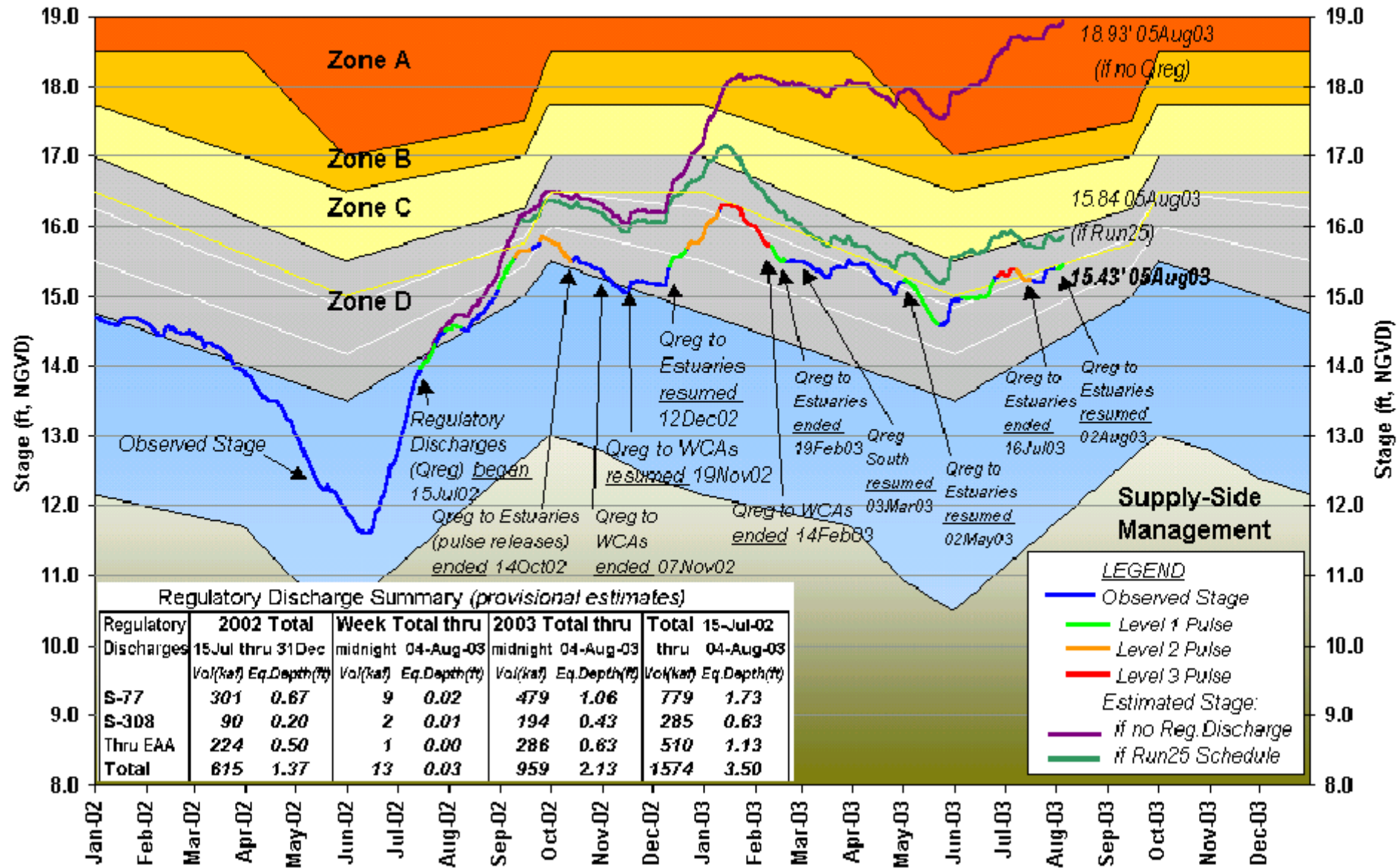
Lake Okeechobee

Current Operations

- **Regulation Schedule**
 - **Stage in Zone D**
 - *Very Wet* inflow conditions
 - *Very Wet* rainfall conditions
 - *Very Wet* seasonal forecast
 - *Wet* multi-seasonal forecast
- **No discharge to the WCAs**
 - **WCAs above schedule**
- **Level III Pulse to estuaries**
 - Started August 13th (Today)
 - Will end on August 23th



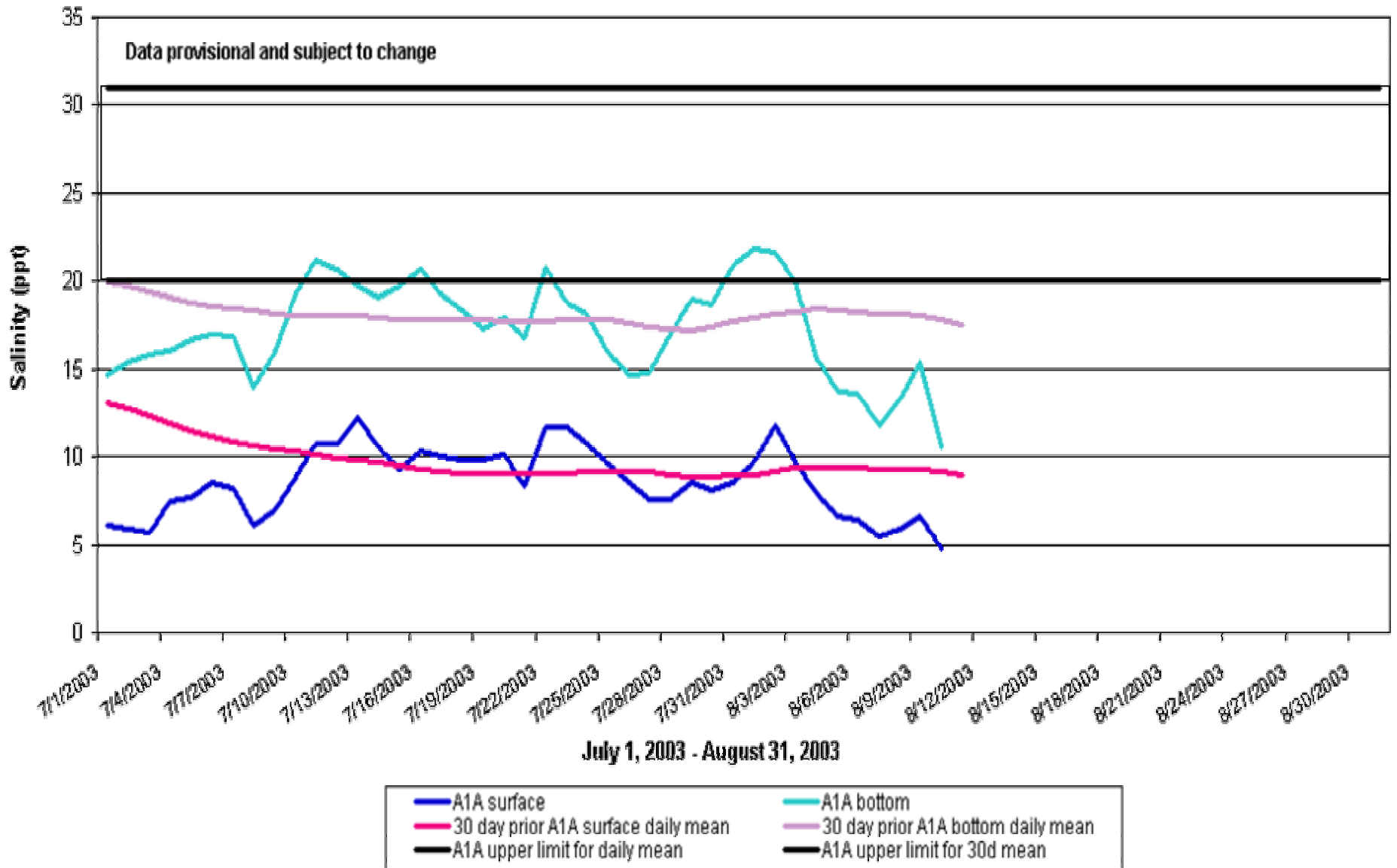
Lake Okeechobee Stage Comparison



Hydrologic Conditions St. Lucie Estuary

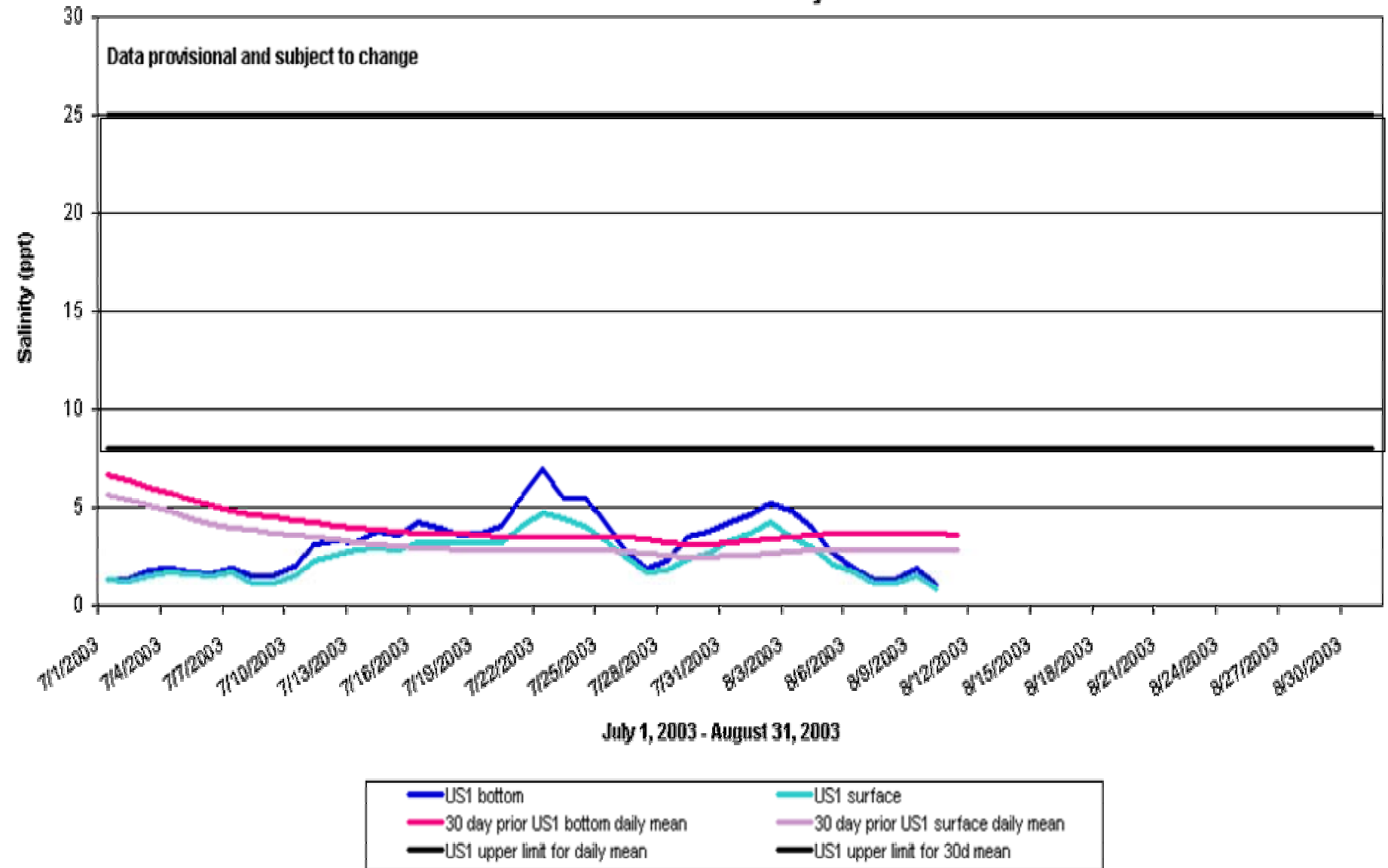
- As a result of the recent pulse releases & local rainfall, salinity measurements at both the water surface and the bottom remain well below the lower end of the preferred range

Salinity Envelope and A1A Surface and Bottom Mean Daily Salinity in the St. Lucie Estuary



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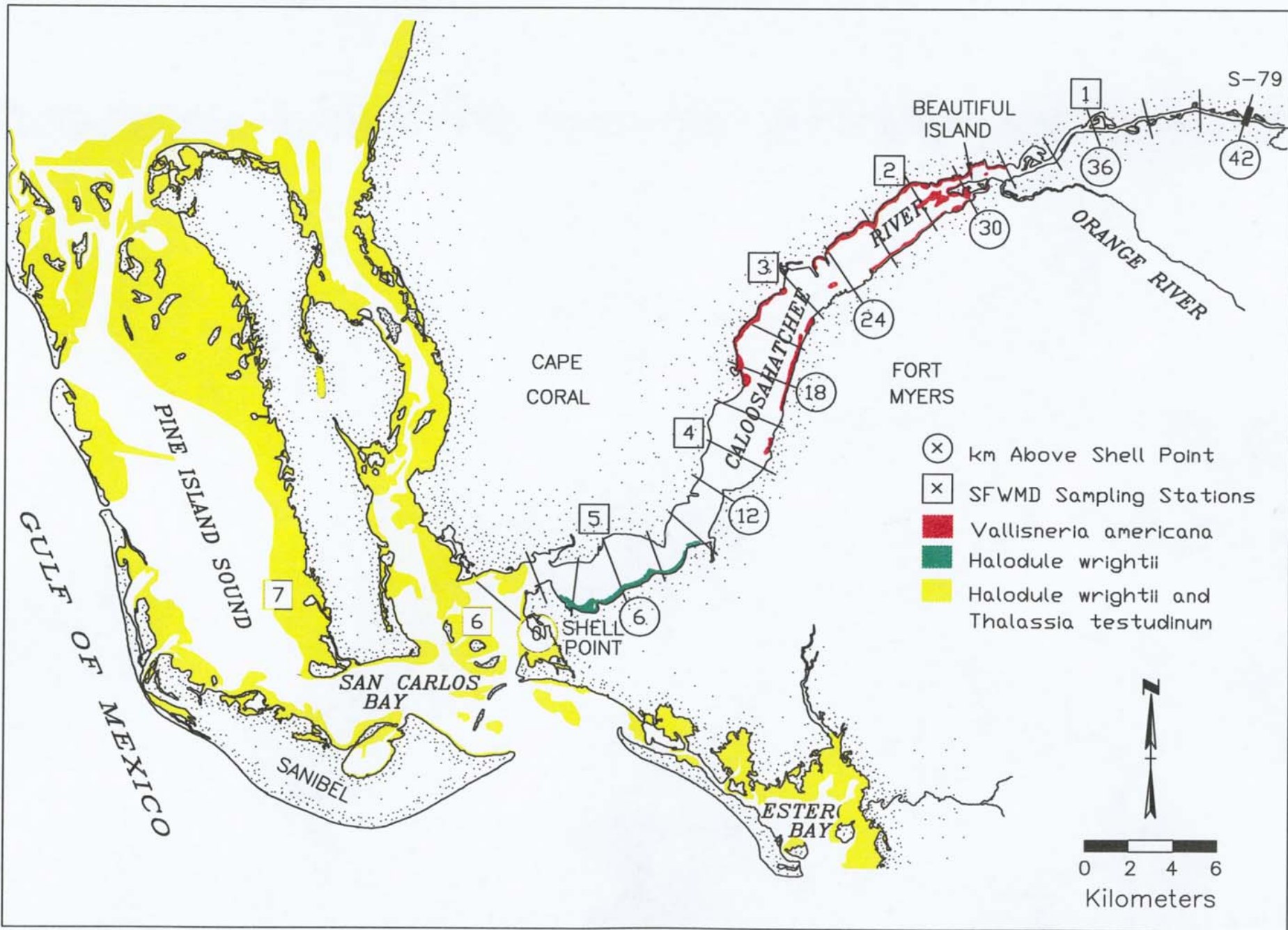
Salinity Envelope and US1 Surface and Bottom Mean Daily Salinity in the St. Lucie Estuary



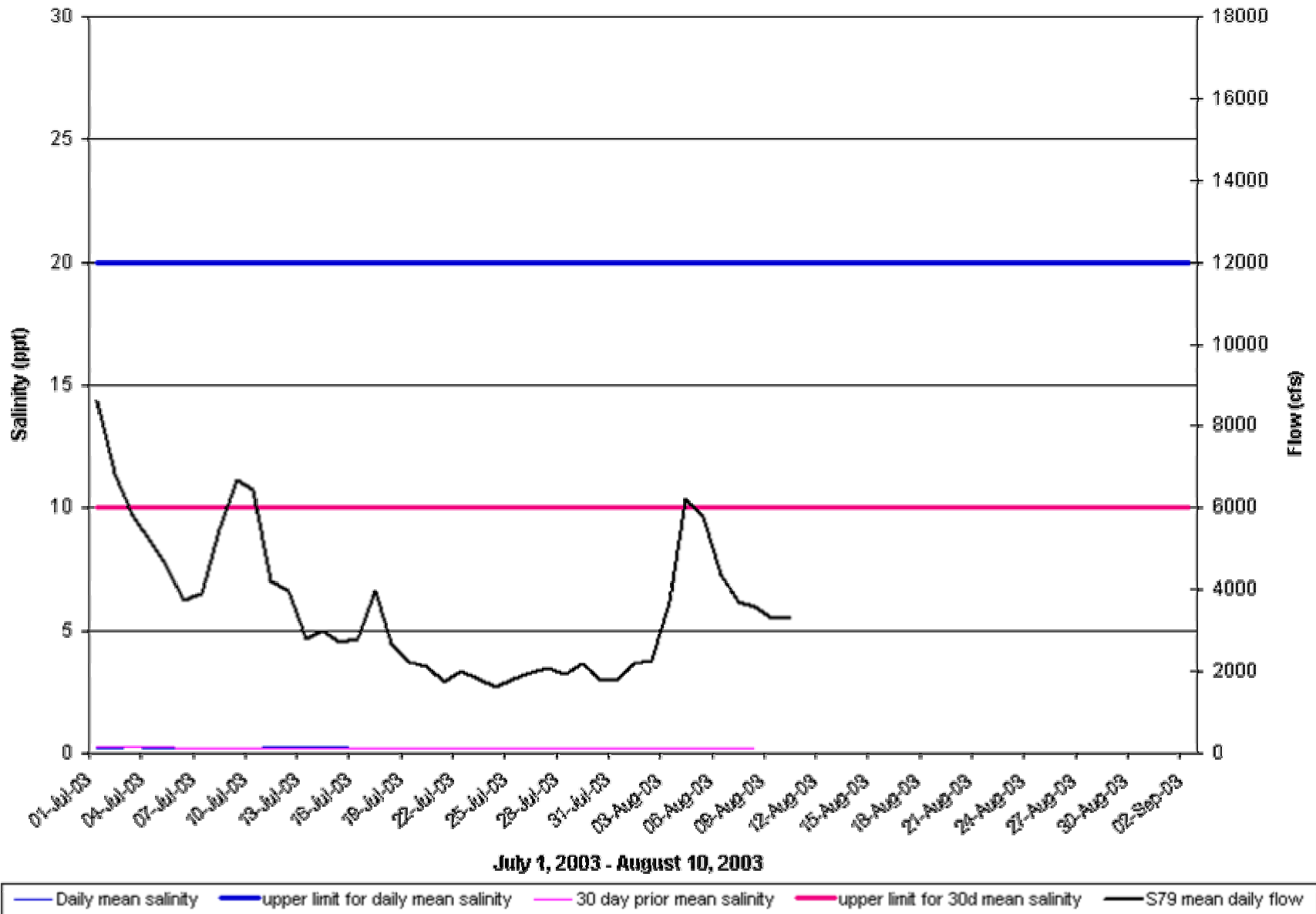
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Hydrologic Conditions Caloosahatchee Estuary

- Salinity is < 1ppt at Fort Myers.
- The 7-day average salinity at the Cape Coral Bridge
 - 3.0 ppt on the surface and
 - 4.1 ppt on the bottom.
- At the Sanibel Causeway, the 7-day average salinity
 - 24 ppt on the surface and
 - 26 ppt on the bottom.
- Because the 30-day average discharge at S-79 is less than 4500 but greater than 2800 cfs conditions in San Carlos Bay are fair.
- Conditions in the lower Caloosahatchee Estuary are poor.



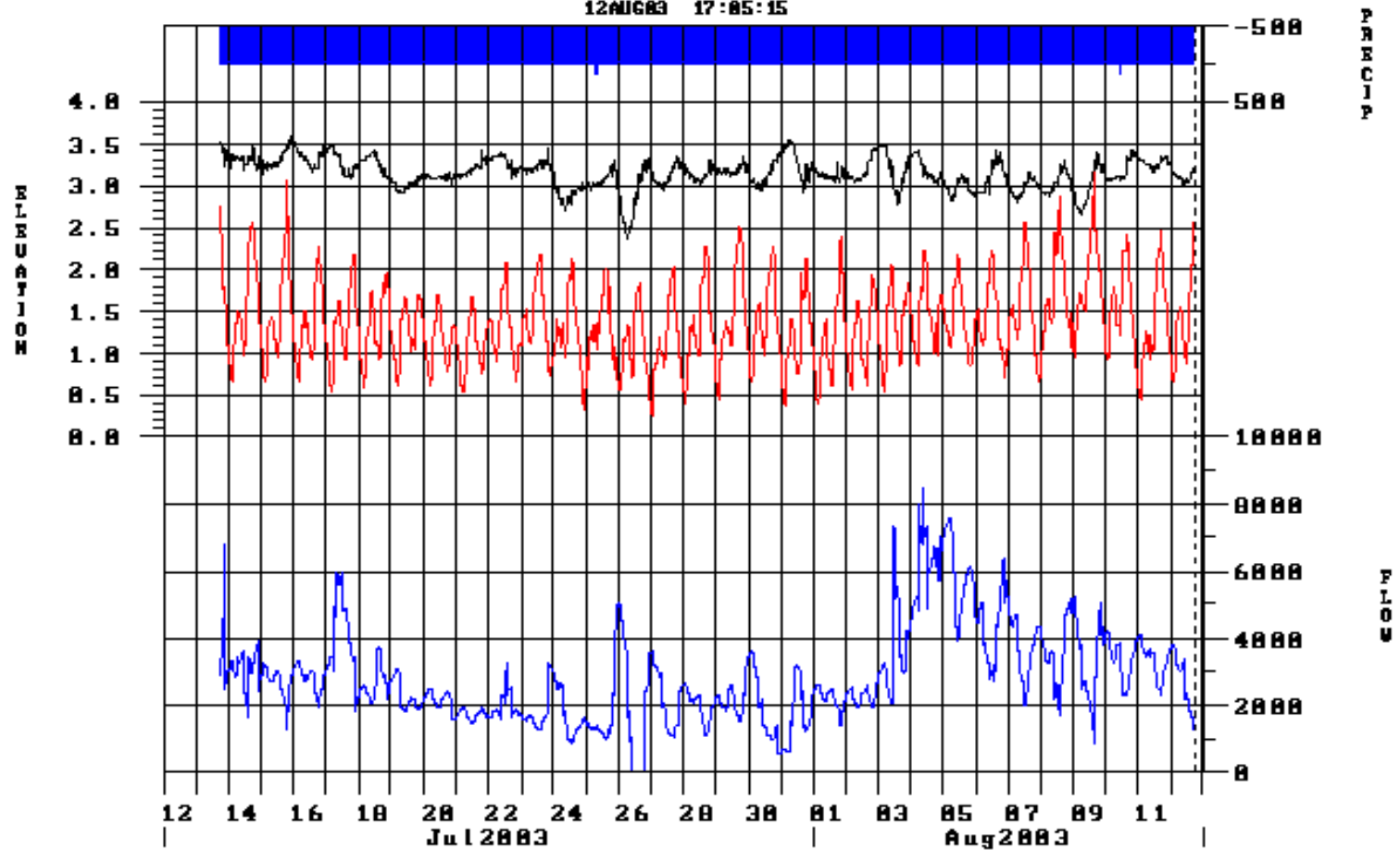
**Salinity at City of Ft. Myers Yacht Basin and Upper Limit Exceedance
of Caloosahatchee MFL and Mean Daily Flow from S79**



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S79 - Headwater, Tailwater, Flow & Rainfall

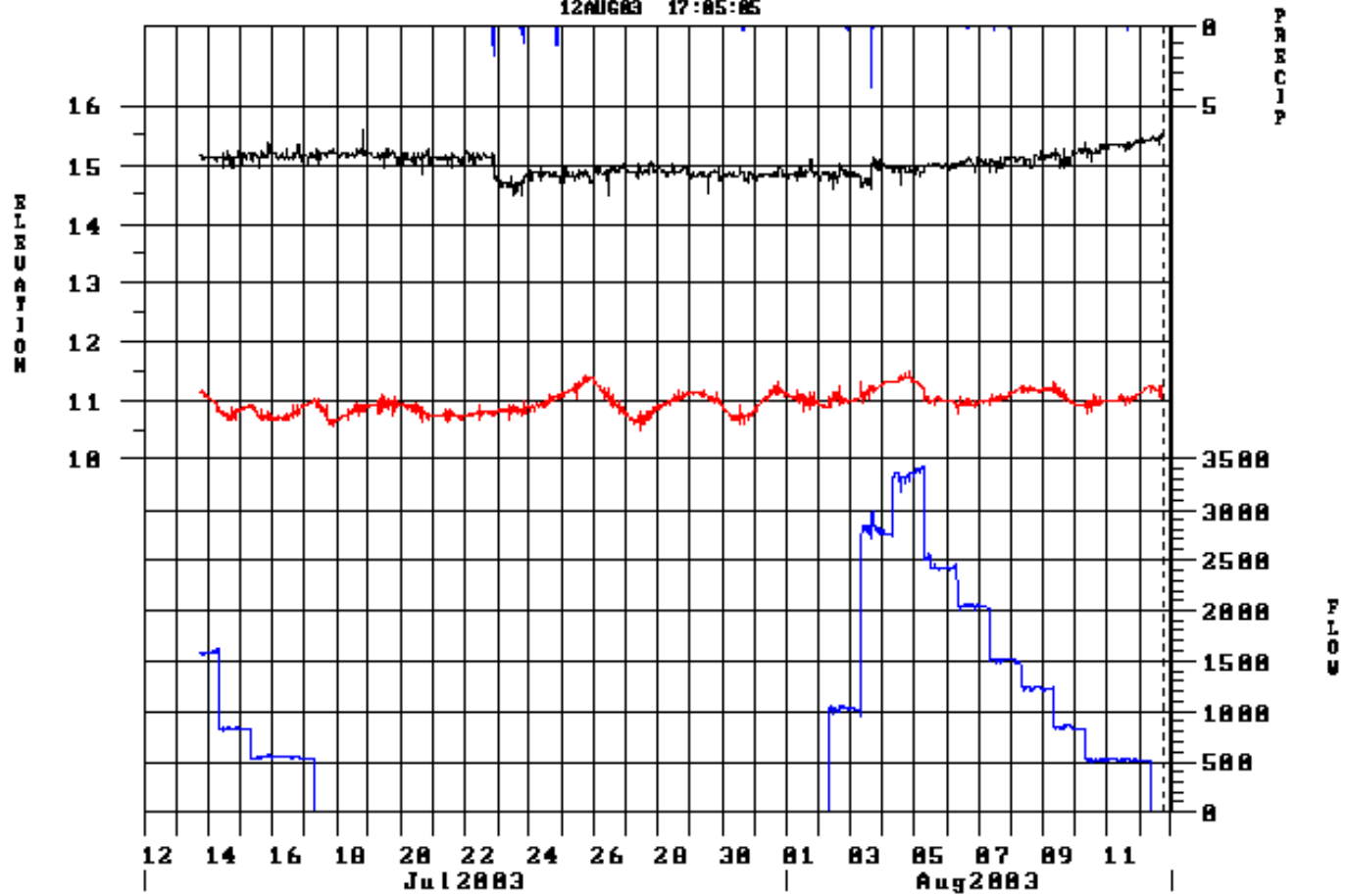
12AUG03 17:05:15



- Discharge in CFS
- Headwater Elsu in Ft-NGVD
- Tailwater Elsu in Ft-NGVD
- Precip in Inches

S77 - Headwater, Tailwater, Flow & Rainfall

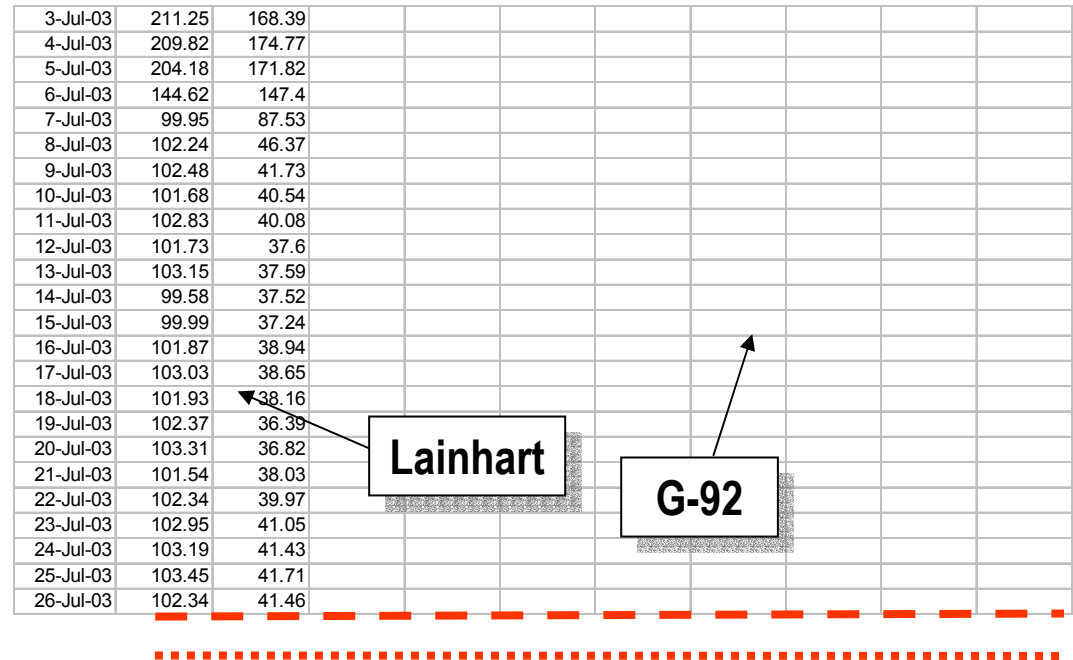
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- Discharge in CFS
- Headwater Elev in Ft-MGVD
- Tailwater Elev in Ft-MGVD
- Precip in inches

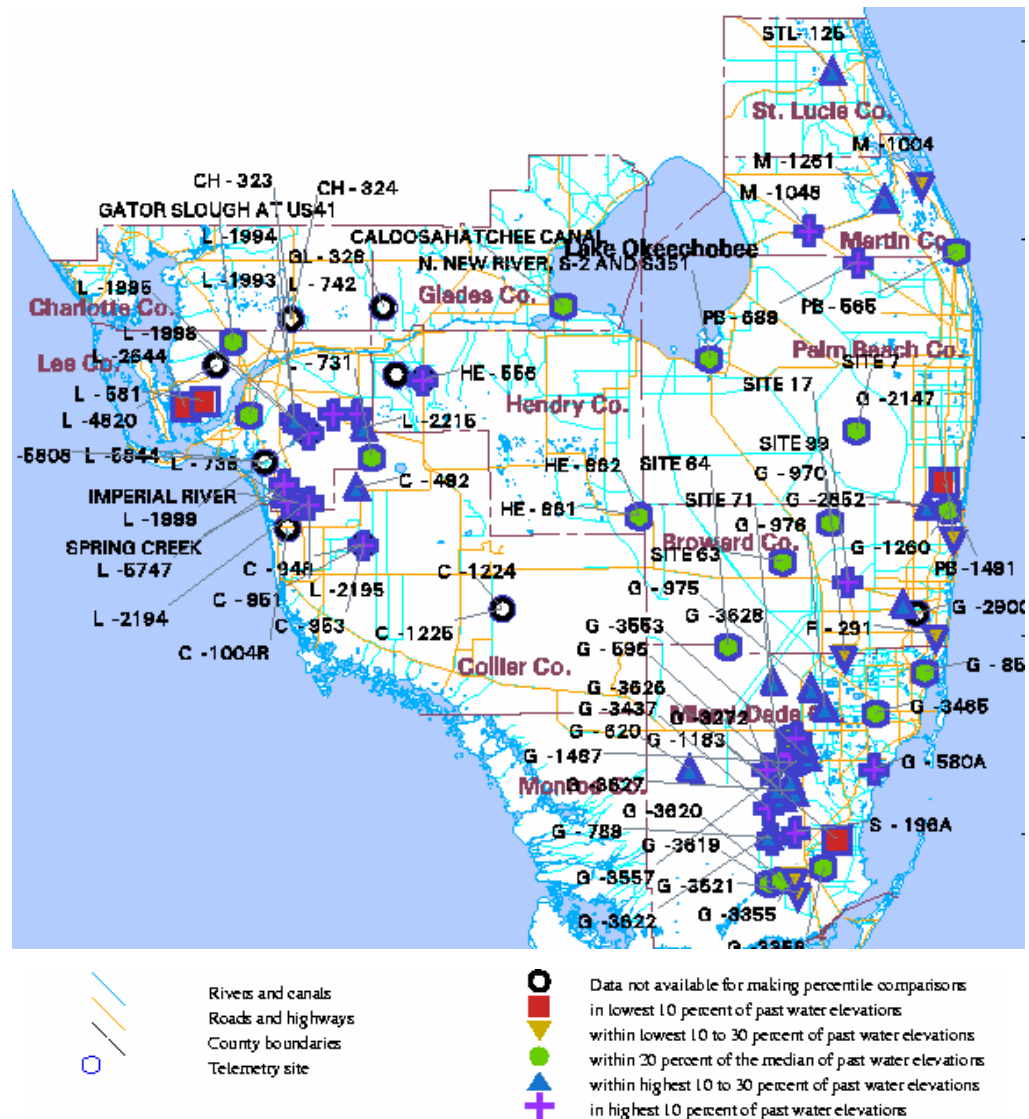
Loxahatchee River

- Recent rainfall had maintained significant flows in the Loxahatchee River
- Flow across Lainhart Dam has recently been terminated due to major structure maintenance
- Operations staff is coordinating with Palm Beach County to utilize alternate means to bring in additional water to the River



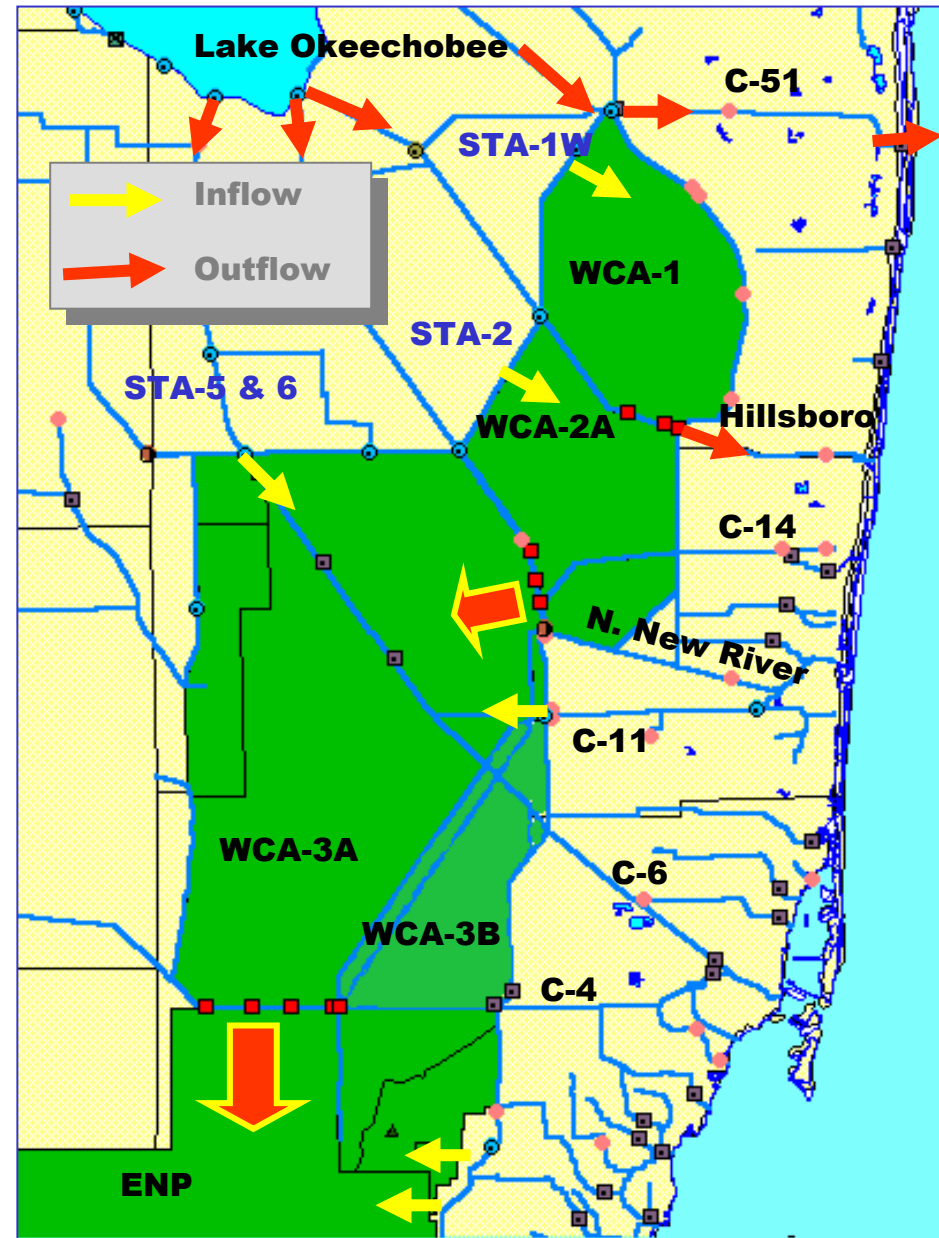
Groundwater Conditions

- Upper East Coast
 - Above normal seasonal levels
- Lower East Coast
 - Normal seasonal levels
 - Above normal levels in south Miami-Dade
- Lower West Coast Region:
 - Above normal seasonal levels



Water Conservation Areas

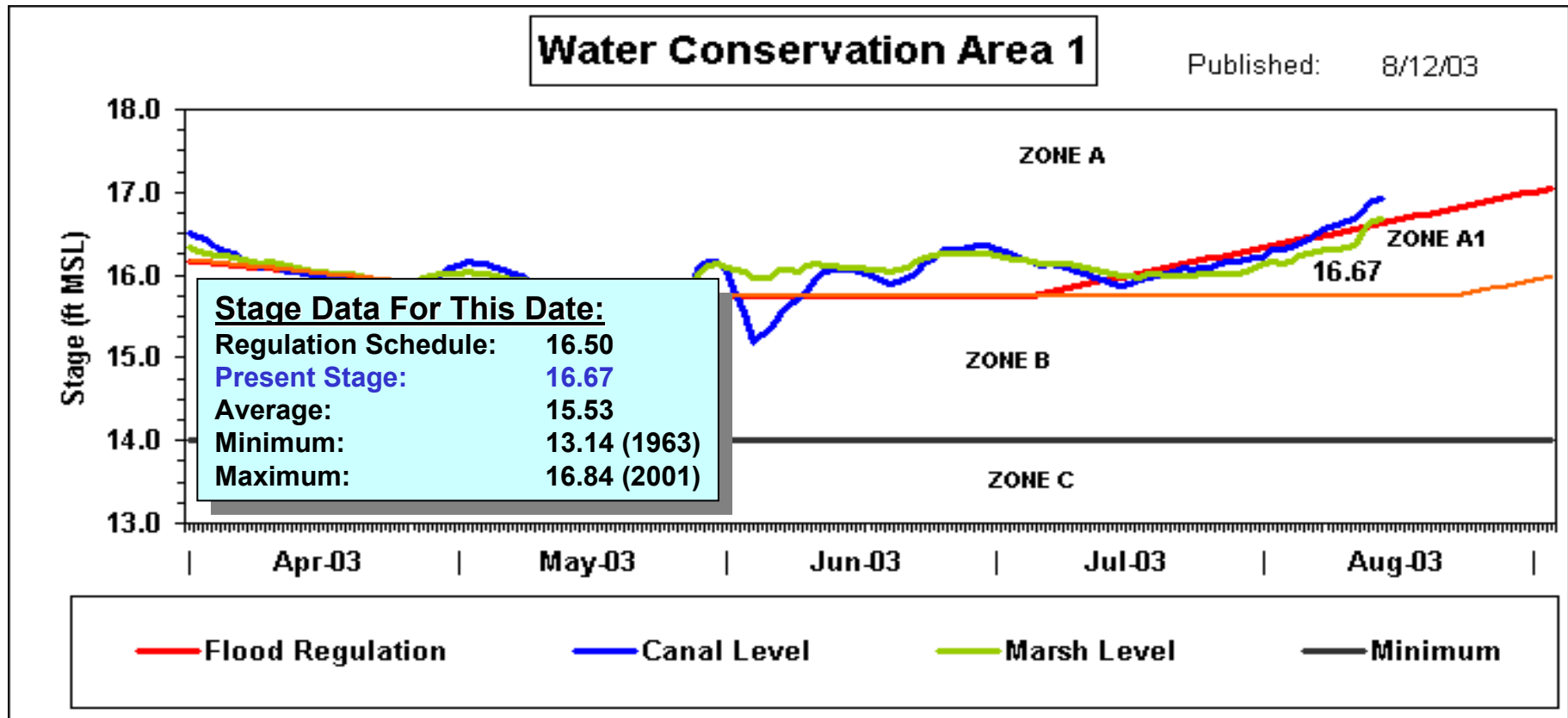
- All WCAs are above their respective regulation schedules
 - Regulatory discharges
- Maximum practicable releases to tide
 - Limited capability due to flooding concerns
- All S-12s open
- IOP Operations



Hydrologic Conditions

Water Conservation Area No. 1

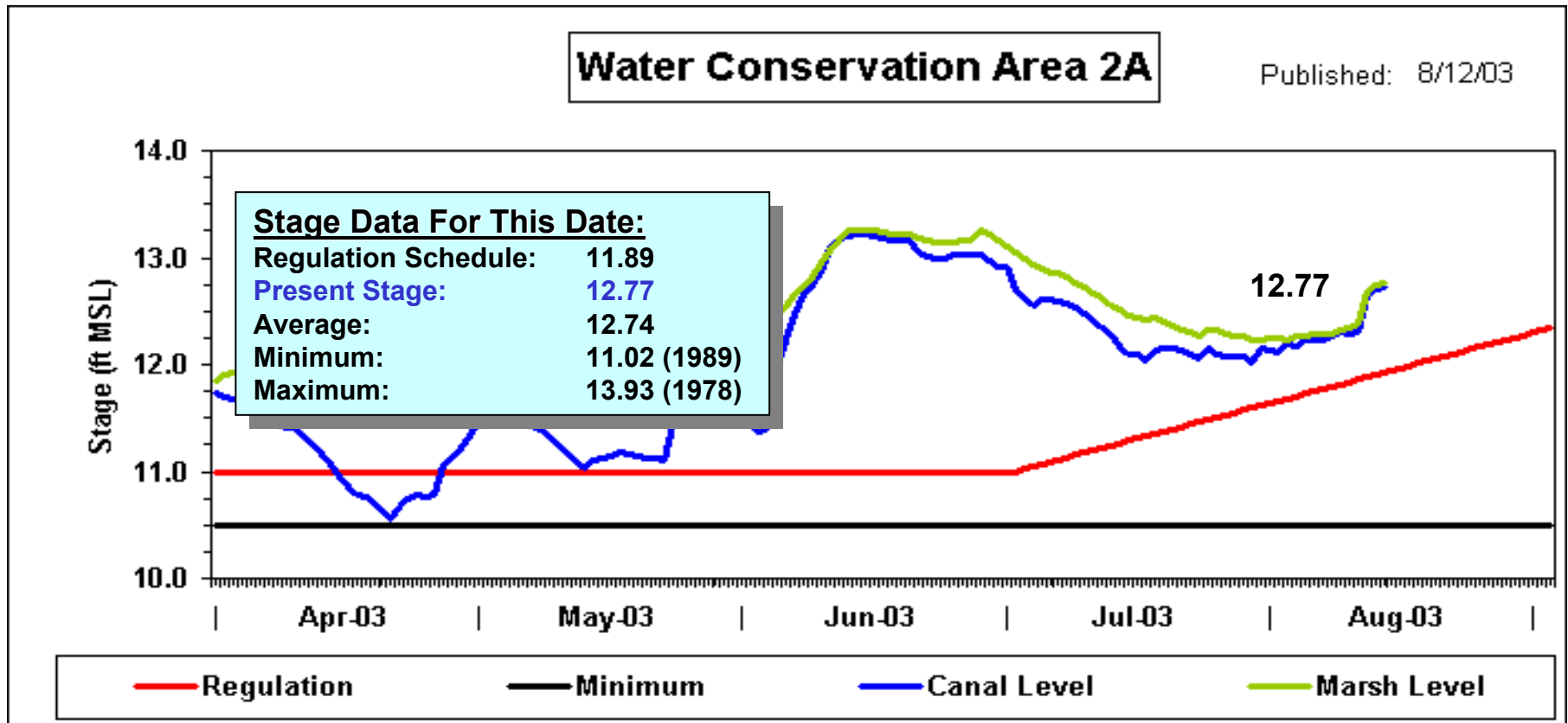
- S-10's closed
- Discharge to tide via Hillsboro & C-51 canals



Hydrologic Conditions

Water Conservation Area No. 2A

- Discharge thru S-11s, C-14 & North New River canals

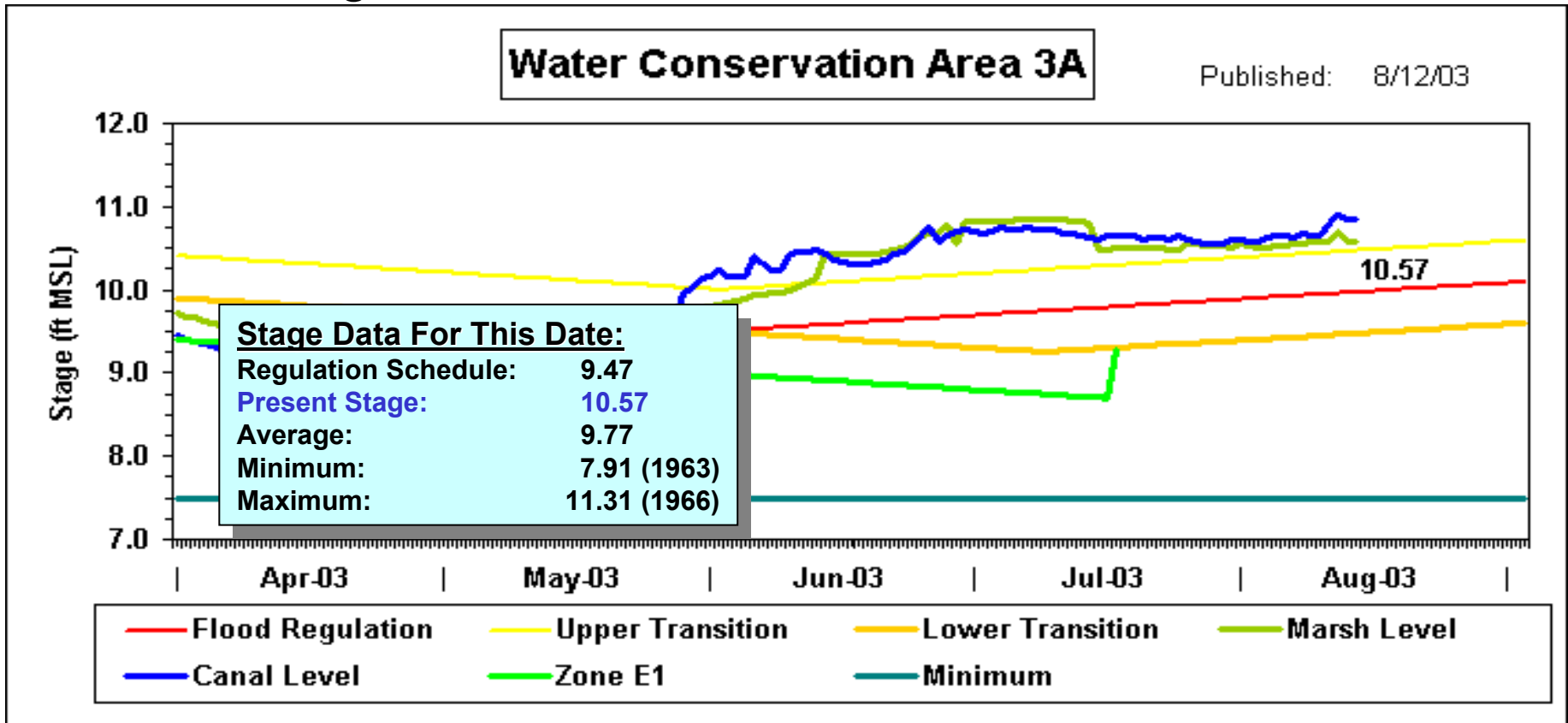


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Hydrologic Conditions

Water Conservation Areas

- Discharge thru all S-12s

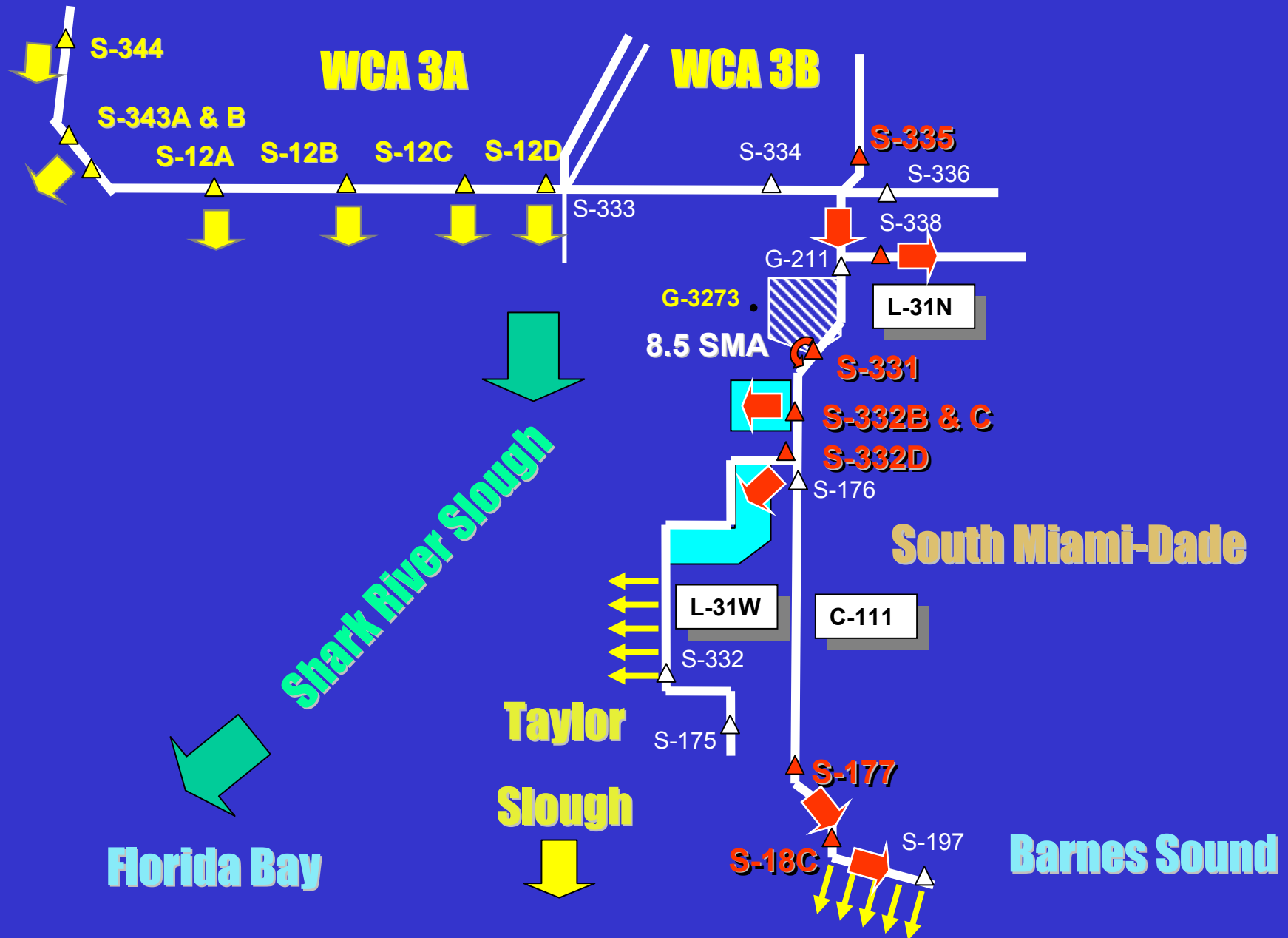


Hydrologic Conditions

SDCS Current Operations

- Current Operations are following Column 1 of the IOP Operating Criteria
 - Slightly higher canal stages allowed than under Column 2 criteria
 - Column 2 criteria is used when regulatory releases from WCA-3A to SDCS are required
- This morning, District requested approval of pre-storm operations from USACE in preparation for evening forecast rains

SDCS - IOP General Operations

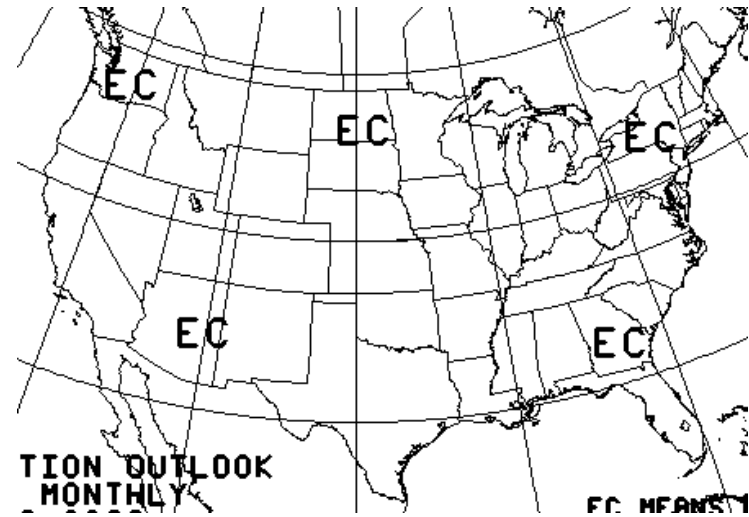


Climate Outlook

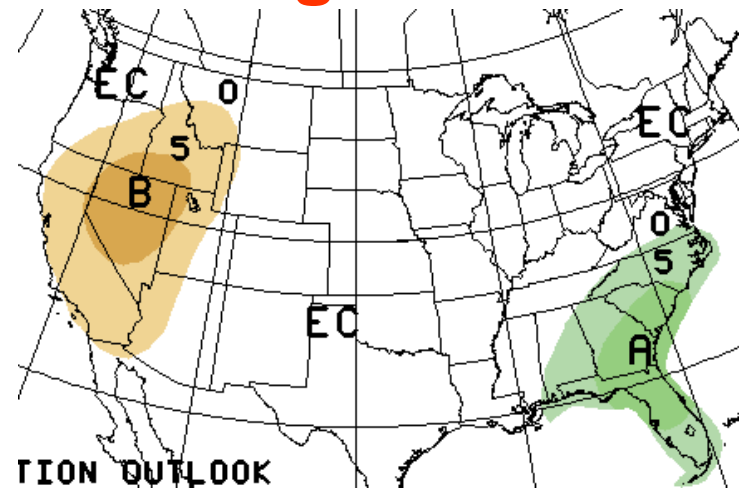
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Seasonal Climatic Outlook

- CPC reports that August 2003 has an “equal” probability of above average, average, or below average precipitation
- The period of August thru October has a slightly higher probability of above average precipitation



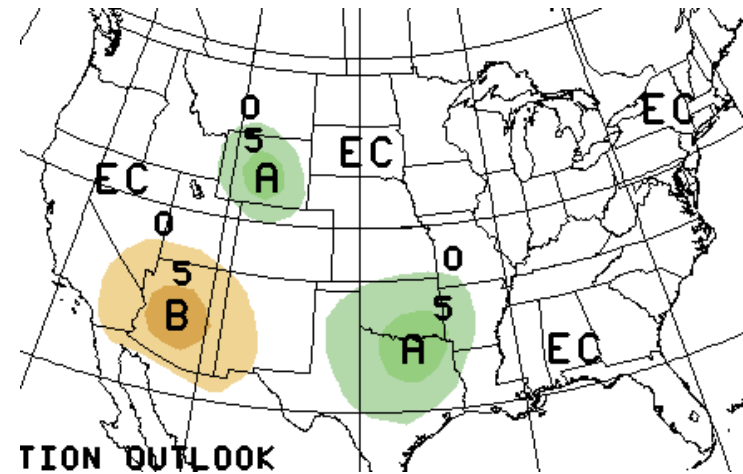
August 2003



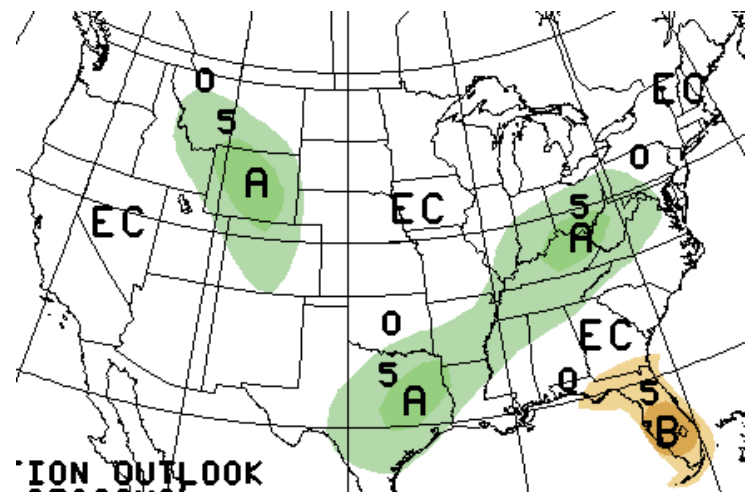
Aug-Sep-Oct

Seasonal Climatic Outlook

- CPC now reports that November 2003 through January 2004 had an equal probability of average, above average or below average precipitation
- January through March 2004 has a higher probability of below average rainfall



Nov-Dec-Jan



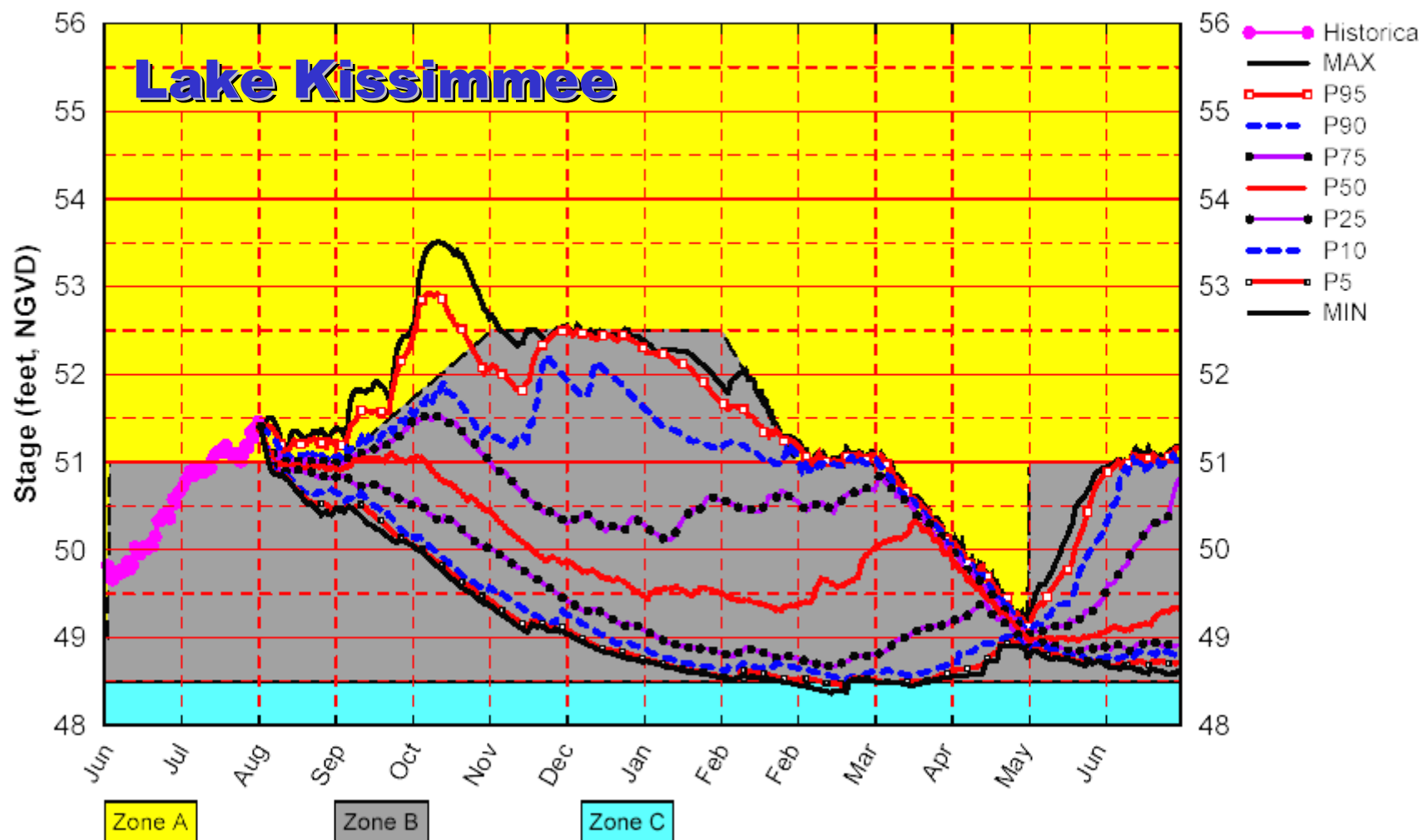
Jan-Feb-Mar

Hydrologic Outlook

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S65 UKISS Aug 2003 Position Analysis

UKISS Unconditional PA

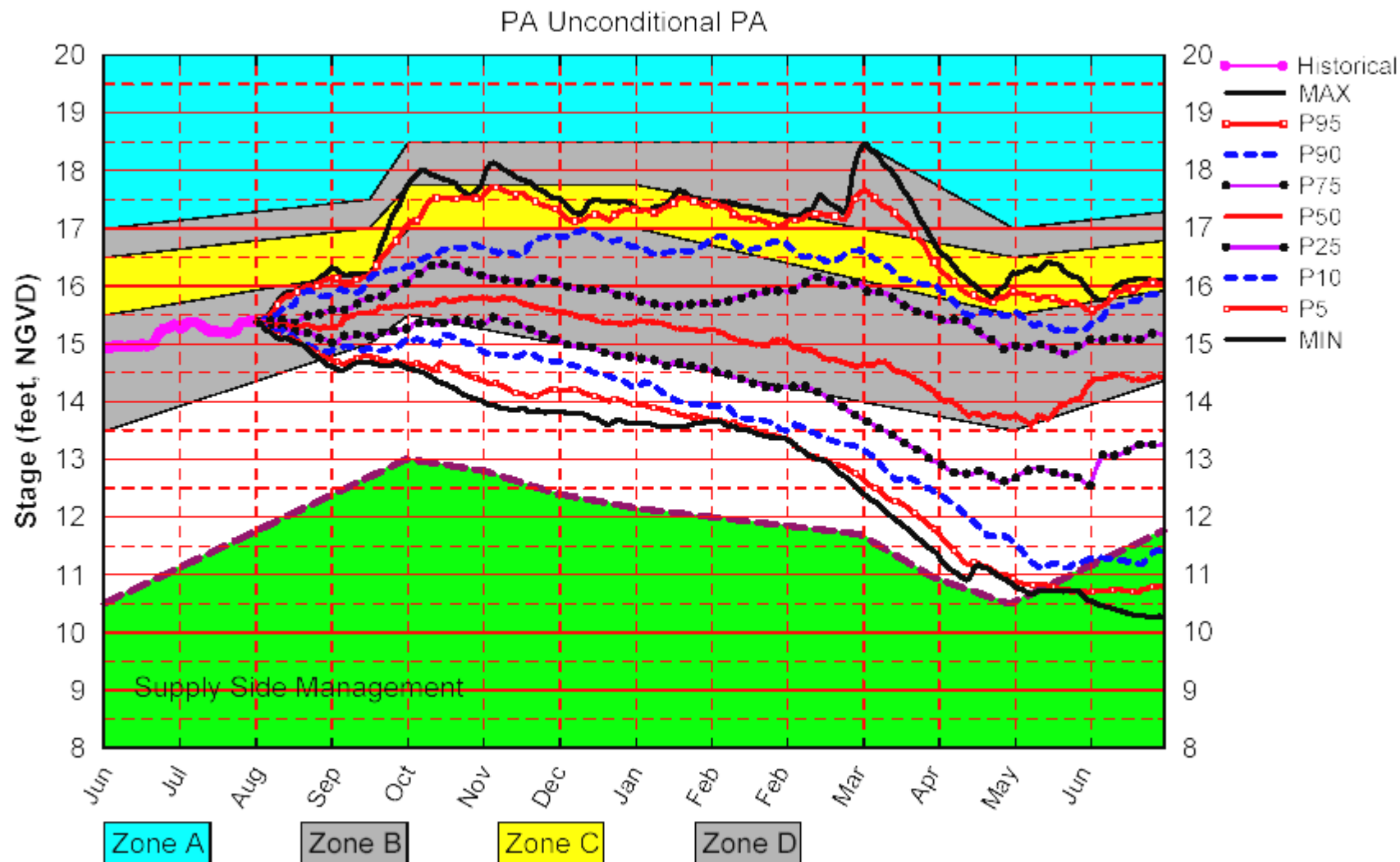


(See assumptions @ http://www.sfwmd.gov/org/pld/hsm/sfwmm_pa.html)

Wed Aug 6 15:07:34 2003

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Lake Okeechobee SFWMM Aug 2003 Position Analysis



(See assumptions @ http://www.sfwmd.gov/org/pld/hsm/sfwmm_pa.html)

Wed Aug 6 08:28:52 2003

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